

Up To Date

NASA's Independent Verification & Validation Program
Educator Resource Center Newsletter
Fairmont, West Virginia

Jan.—Feb. 2013

Science and Engineering Day

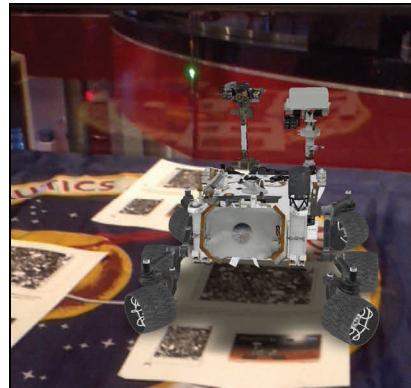
The Clay Center for the Arts and Sciences in Charleston WV hosted a Discover Engineering Day on Feb. 23 for youth and their families. The doors opened early for members of the Girl Scouts and their families at 9:00 a.m. while the general public arrived at 11:00 a.m. Colleges, universities, engineering firms, the Clay Center and the NASA IV&V Educator Resource Center provided hands on learning activities to introduce youth in WV to what the field of engineering encompasses and challenged them to consider engineering as a career.



Jaime Ford, the ERC's Graduate Assistant for Student Programs, explains ultraviolet light to Girl Scouts as they make UV bracelets



The ERC's infrared camera entertained visitors as they learned how NASA satellites use infrared wavelengths to study the universe.



Spacecraft 3D, a free NASA app, allows viewing of spacecraft models such as Curiosity and Cassini in 3D.

March 22, 2013 Sun-Earth Day

NASA's Sun Earth Days team is joining forces with [NASA EDGE](#) to explore the violent nature of our Sun at the peak of solar activity and share discoveries from NASA's heliophysics and planetary missions during this exciting period.

NASA EDGE is an unscripted, non-traditional video podcast (vodcast) designed to highlight all things NASA in a unique and fun way. By using a combination of funny, offbeat and informative sketches, features and interviews, the NASA EDGE team creates a vodcast that reaches a much broader online audience. Built in the framework of sports talk radio (i.e. Mike and Mike in the Morning - ESPN Radio), NASA EDGE has generated a positive buzz for NASA in a way in which young teens and adults can relate.

Time: 1:00 - 2:30 PM EST **Location:** streamed from Wallops Flight Facility
URL: <http://www.ustream.tv/nasaedge>

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Astronomy News

Comet PanSTARRS

PanSTARRS will be the first of two major visits to earth by comets in 2013. It will be visible to the naked eye until sometime in early April. Look above the western sky just after sunset. It is visible now for about fifteen minutes before sinking below the horizon. As March progresses it will be visible longer each night. March 10 through the 18 Pan-STARRS will appear its brightest and be visible for over an hour. On March 12 a thin crescent moon can be seen to the right of the comet. To see their panoramic beauty comets are best viewed with binoculars or low powered telescope lens.

Comet ISON

Really want to be dazzled? This comet is being hailed as the comet of the century. If it doesn't break up it may be 10,000 times brighter than Comet PanSTARRS. That's bright enough to see in the daytime! Comet ISON will have a long tail and though it will become visible to the naked eye in October, it won't be its most spectacular until late November through December. Read the *Up To Date* this fall for more information.

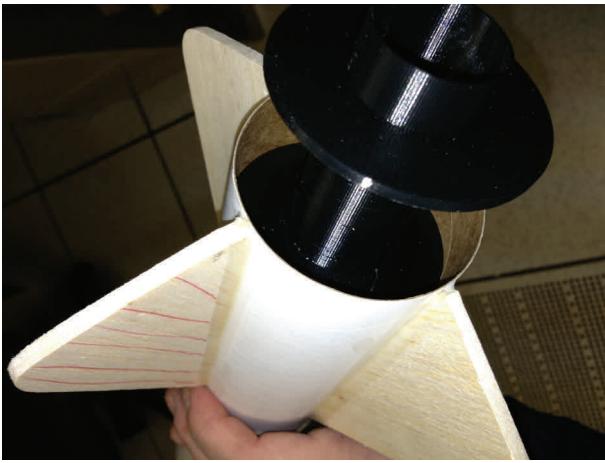
March 17 Night Sky

Tonight the moon will be book ended by the red-orange star Aldebaran and the planet Jupiter. Try to catch this around 10 pm for the best view before the moon slides on past.

Blast Off - the Latest Rocket Launches



Students prepare a rocket for launch at Mylan Park in Morgantown as part of their preparation for TARC.



The black engine mount seen here was designed using engineering software provided by the ERC and then printed out on the ERC's 3D printer.

WVU now has twenty-nine active Team America Rocketry Challenge (TARC) teams composed of middle school and high school students. Over half of these teams work with the ERC to design and build parts for their rockets.

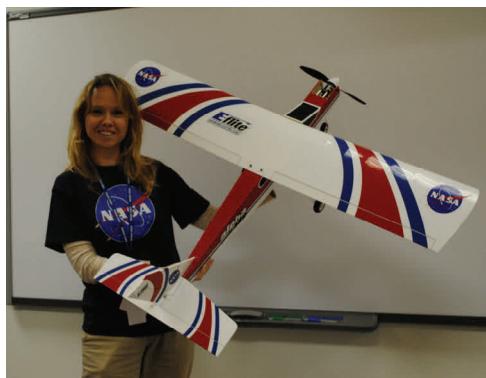


Neither rain nor snow stopped this Preston County group of students as they gathered for rocket launches at Preston County High School in Kingwood.

This year's TARC Challenge is to design a rocket that will fly to a altitude of 750 feet, and return to earth via parachute in 48-50 seconds without breaking the payload of a raw egg. There are also restrictions on engine size and rocket dimensions.

The top 100 teams across the country who participate in sanctioned TARC launches will be invited to the national Team America Rocketry Challenge to be held at The Plains in Virginia. The winners there will go on to compete internationally. West Virginia had a team in the top 100 and participated at the national competition last year.

Meet Jaime Ford, the ERC's New Graduate Assistant for Student Programs



Jaime Ford, FSU grad student, shown here with a remote controlled airplane used with students in the ERC's aviation workshop.

Want to know how to artificially inseminate honey bee queens? Then Jaime is your expert. For the last two years Jaime has been doing honey bee research for Fairmont State University. Jaime has an undergraduate degree from WVU in Animal and Veterinary Science and a teaching certificate from FSU in Biology and General Science. Now she is working on a M. Ed. in Professionals Studies.

Jaime lives in Farmington with her husband and two children. Karate, biking, kayaking and triathlons occupy much of her free time. Her hobbies include gardening (she has three separate gardens growing - herbs, vegetables and flowers). Crocheting and knitting are also favorite pastimes.

Pre-Schoolers Explore the Solar System

February had two groups of pre-school students visit the ERC to learn about the solar system. These students explored topics such as the sun, the moon, and the planets. Paper rockets were launched and rocket tangrams built. Solar System puzzles and ***There Is No Place Like Space*** by Dr. Seuss reinforced astronaut "flybys" of the planets.



Astronauts developing strategies for flybys of the planets.



Learning characteristics of the solar system.

Space Exploration Educators Conference

Forty states and four countries were represented at this year's February 7-9th Space Exploration Educators Conference held at Johnson Space Center in Houston, Texas. Over 100 workshops and tours were attended by hundreds of educators.

Keynote speakers this year were astronaut Dr. Lee Morin who helped construct the International Space Station, Japanese astronaut Dr. Satoshi Furukawa, who spent 165 days on the ISS as a flight engineer and LeVar Burton. Burton is best known for his roles as the young Kunta Kinte in the 1977 award-winning ABC television miniseries *Roots*, Lt. Commander Geordi La Forge in *Star Trek: The Next Generation*, and as the host and co-creator the PBS children's program *Reading Rainbow*.



In the *Up, Up and Away* workshop educators built hot air balloons and studied the history of ballooning.



LeVar Burton draws tickets for door prizes such as an authentic cosmonaut helmet.

Rainbow. He is on the advisory board of the 100 Year Space Ship project and is the owner of an educational technology company that is making *Reading Rainbow* available worldwide through apps for tablet readers.



Angry Birds Space was popular with all ages. Behind the 3 story climbing unit were interactive displays to learn about the solar system, space travel, and astronauts.

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Upcoming Events:

Mar. 15 ERC Workshop at WV Council for Teachers of Mathematics

Mar. 16 Haptics Workshop at ERC

Mar. 19 STARLAB workshop at ERC 4:30 –7:30 Open to all adults wishing to be certified to borrow STARLAB

Mar. 24 Mylan Park TARC Rocket Launch 10:00 –11:00 am

Apr. 4 Kindernauts Workshop at ERC 4:00-7:00 pm Open to all adults wishing to be certified to borrow the Kindernauts kit



Links to Student Competitions

First Lego League Robotics:

<http://www.firstlegoleague.org/>

Real World Design Challenge:

<http://www.realworlddesignchallenge.org/>

Team America Rocketry Challenge:

<http://rocketcontest.org/>

Green Aviation Contests:

<http://aero.larc.nasa.gov/competitions.htm>

Quotes of the Month: *Engineering*

With engineering, I view this year's failure as next year's opportunity to try it again. Failures are not something to be avoided. You want to have them happen as quickly as you can so you can make progress rapidly.

[Gordon Moore](#)

— One man's "magic" is another man's engineering. "Supernatural" is a null word.

[Robert A. Heinlein](#)

Where in WV is the ERC?

Jan. Feb. Workshops in Red

Jan. Feb. Equipment Loans in Blue

To schedule a workshop:

Contact the ERC by calling 304-367-8436 or emailing:

pamela.casto@ivv.nasa.gov

To schedule equipment for loan: First check the equipment loan calendar on the ERC website to see if the equipment is available for the dates desired. Then email Nicole Culp who will schedule the dates.

nicole.culp@ivv.nasa.gov

Check us out on Facebook:

NASA IV&V Facility Educator Resource Center

And Twitter: [@NASAIIVV_ERC](#)

